INTRODUCTION TO WIRELESS HEALTH

EBME 480A

COURSE DESCRIPTION: Study of convergence of wireless communications, microsystems, information technology, persuasive psychology, and health care. Discussion of health care delivery system, medical decision-making, persuasive psychology, and wireless health value chain and business models. Understanding of health information technology, processing of monitoring data, wireless communication, biomedical sensing techniques, and health monitoring technical approaches and solutions. (3 credit hours)

FACULTY: Mehran Mehregany, Ph.D. Goodrich Professor of Engineering Innovation Director, Case School of Engineering San Diego

TEXTBOOKS: Wireless Health: Remaking of Medicine by Pervasive Technologies by Mehran Mehregany, ed. (authorHouse)

ADDITIONAL MATERIAL: Assigned articles

COURSE OBJECTIVES: This course is designed to provide the students with the fundamental and practical knowledge necessary for an overall grasp of the field of wireless health.

COURSE GRADE:

Quizzes (30%): ~ biweekly
Homework (40%): 4 assignments, ~ biweekly
Project (30%): Carry out a cross-generational health study using an existing wireless health product.

LECTURE SCHEDULE:

WK 1 Overview of wireless health
WK 2 Physicians, hospitals and clinics
WK 3 The U.S. health care system
WK 4 Policy and regulatory issues
WK 5 Personalized medicine and public health
WK 6 Health information technology
WK 7 Microsystems
WK 8 NO CLASS – SPRING BREAK
WK 9 Wireless communication and networking
WK 10 Computing and information
WK 11 Social networks and apps
WK 12 Electronic Instrumentation
WK 13 Medical device design
WK 14 User experience design
WK 15 Platforms, interoperability and standards

University Student Ethics Policy
http://studentaffairs.case.edu/ai/policy.html
Violations of the Student Ethics Policy will result in failure in the assignment in question or the course, or referral to the academic integrity board as per university policy.

All forms of academic dishonesty including cheating, plagiarism, misrepresentation, and obstruction are violations of academic integrity standards. Cheating includes copying from another's work, falsifying problem solutions or laboratory reports, or using unauthorized sources, notes or computer programs. Plagiarism includes the presentation, without proper attribution, of another's words or ideas from printed or electronic sources. It is also plagiarism to submit, without the instructor's consent, an assignment in one class previously submitted in another. Misrepresentation includes forgery of official academic documents, the presentation of altered or falsified documents or testimony to a university office or official, taking an exam for another student, or lying about personal circumstances to postpone tests or assignments. Obstruction occurs when a student engages in unreasonable conduct that interferes with another's ability to conduct scholarly activity. Destroying a student's computer file, stealing a student's notebook, and stealing a book on reserve in the library are examples of obstruction.

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